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MINIATURIZATION, SCALE MODELS IN DESIGN: how to use enlarged scale models in the design of miniature electromechanical devices. Feb 1963 pp 38-43

MOISTURE MONITOR: dual flow technique determines moisture in hydrogen and oxygen streams. Aug 1963 pp 54-55

MOTOR CONTROL: use of glass-reinforced alkyd reduces size of motor controller. Aug 1963 pp 26-27

MOTOR, FHP BRUSHLESS: transistor switching substitutes for brush and commutator. Jan 1963 p 23

MOTOR, PRINTED CIRCUIT: analysis of servomechanism applications. Mar 1963 pp 50-53

MOTOR, SERVO: operating 60 c/s on 50 c/s how to determine the affect of power frequency difference on servo motor performance. Jan 1963 pp 46-47

MOTOR STEPPER: how to replace the servo motor. Oct 1965 p 45

MOTOR, STEPPER: control of positioning systems. Dec 1965 pp 28-39

MOTORS: a guide to the application of polyphase synchronous and induction machines. Aug 1965 pp 56-58

MOTORS, FHP: FOR INDUSTRIAL AND MILITARY APPLICATIONS; state of the art survey containing selection and application data, comparison worksheets and buyer's guide. Jan 1965 pp 361-380

MOTORS, INDUCTION, FHP (FOR MILITARY APPLICATIONS): state-of-the-art survey containing selection and application data, Mil Specs, selection worksheets and buyer's guide. Jan 1964 pp 251-266

MOTORS, STEPPER: state-of-the-art survey containing application and selection data and buyer's guide. July 1964 pp 107-122 Revised and updated July 1965 pp 101-118

MULTI LAYER CIRCUITS: for producing flexible high density layers. Apr 1965 p 19

MULTIPLIER, MAGNETORESISTANCE: external feedback linearizes bridge unbalance. Apr 1965 pp 58-61

NAVIGATION, INERTIAL: low cost aircraft system. Mar 1964 p 11

NOISE GENERATOR: world's loudest noise maker. Apr 1963 p 16

The new Babcock 1/6-size BR10 relay is designed specifically for low profile circuit board applications where size is critical. But don't let its size deceive you. It will switch dry circuit to 1 amp. loads with the same degree of performance as DPDT types many times its size. Add unitized construction, MIL-R-5757 conformance, and Babcock's exclusive Vycor contaminant adsorbing getter, and you have a 1/6-size relay that can really give you a fit—physical and operational. Write for details; we'll also send you our new short form catalog describing the complete Babcock Relay line. BABCOCK RELAYS, Division of Babcock Electronics Corporation, 3501 Harbor Blvd., Costa Mesa, Calif.; or telephone (714) 540-1234.

SPECIFICATIONS

SIZE:
.405" h x .505" l. x .230" w.

WEIGHT:
Approx. 0.15 oz.

LIFE:
To 150,000 operations

SENSITIVITY:
80 Milliwatts

VIBRATION:
30g, 40-3000 cps.

CONSTRUCTION:
Welded and non-welded

CIRCLE 38 ON INQUIRY CARD

OPTICAL AND ELECTRO-OPTICAL INFORMATION PROCESSING TECHNOLOGY: a Conference held in Boston, Mass. on November 9th and 10th 1964. Feb 1965 pp 28-31

ORBITS, ELLIPTICAL: applications of two-body equations. Aug 1964 pp 30-33

OSCILLOSCOPE, DIGITAL MEMORY: reduces noise and recurrent signals. Oct 1964 pp 34-35

OSCILLOSCOPE PLUG-IN: updates obsolescence equipment. Dec 1964 pp 12-14

PACKAGES, ELECTROMECHANICAL: design check for airborne. Mar 1964 pp 31-38

PACKAGING: advanced electronics. Sept 1964 pp 44-46

PACKAGING: new approach to rack and chassis design. Dec 1963 pp 24-26

PHOTOCONDUCTIVE CELL: eye for the Polaroid camera. Mar 1964 pp 13-15

PHOTOELECTRIC DETECTOR: counts mail at high speeds. Oct 1963 pp 58-60

PIEZOELECTRIC DESIGN DATA: handbook contains information for design of piezoelectric devices. Dec 1965 pp 12-13

PLANETGEAR COUNTER: 100,000 counts/min with a mechanical digital counter. Nov 1965 pp 56-57

PNEUMATIC ENGINEERING: monitoring of respiration rates. Mar 1965 p 55

PNEUMATIC SYSTEMS, FLOW CAPACITIES OF: simple and fast calculations for system flow factors for several pneumatic components in series. May 1963 p 83

POTENTIOMETER, DIAL: a time saver for the designer. Dec 1965 p 8

POTENTIOMETER LOADING: relation of output and load voltage ratios. Mar 1965 pp 28-33

POTENTIOMETER, STEP-SERVO DRIVEN: instantaneously reversible. Aug 1965 pp 18-19

POTENTIOMETERS, ADJUSTMENT: selection and application guide. May 1965 pp 28-43

POTENTIOMETERS, INFINITE RESOLUTION: linear or function potentiometers possible with thin film process. June 1965 pp 7-8

POTENTIOMETERS, PRECISION: electrical resistance material. Apr 1965 pp 17-18

POTENTIOMETERS, PRECISION: output smoothness—a better method for measuring systems noise. Oct 1963 pp 50-57

POTENTIOMETERS, PRECISION: output smoothness, Method I or Method II? Mar 1965 pp 23-27

POTENTIOMETERS, PRECISION: Precision Potentiometer Manufacturer's Association Conference Report on meeting held in January 1964. Apr 1964 pp 8-15

POTENTIOMETERS, PRECISION: state-of-the-art survey containing selection and application data, comparison worksheet and buyer's guide. Jan 1964 pp 19-50
Revised and updated Jan 1965 pp 49-78

POTENTIOMETERS, PRECISION CONDUCTIVE PLASTIC: effect of output characteristics in system circuitry. Oct 1963 pp 44-48

POTENTIOMETERS, PRECISION, WIRE WOUND: precision potentiometer manufacturers' association handbook; industry standards for definitions, inspection and test procedures, reliability and application information. July 1965 pp 1-62

POWER PLANT FOR SPACE VEHICLES: hydrogen and oxygen engine. Jan 1963 p 25

POWER SUPPLIES: how to connect a power supply to a system. Oct 1965 pp 38-42

POWER SUPPLIES: selection and application guide. Aug 1965 pp 28-41

POWER SUPPLIES, DC: state-of-the-art survey containing selection and application data, selection worksheet and buyer's guide. July 1964 pp 181-194

POWER SUPPLY: for ultrasonics. Sept 1964 pp 28-30

POWER SUPPLY: Hall-multiplier controlled. June 1964 pp 50-52

POWER SUPPLY: precision regulated. Nov 1964 pp 54-55

POWER SUPPLY: 30kw industrial SCR invertor. Nov 1963 pp 36-39

POWER SUPPLY: Zener diode starts transistor regulated unit. May 1965 p 48

PRESSURE, FLUID: reading pressures from ports at various angles on a rotating mechanism. May 1965 p 46

PRESSURE GAUGE, DIFFERENTIAL: utilizes a spring loaded bellows as pressure sensing element. Sept 1963 pp 64-65

PRESSURE MONITORING SYSTEM. Dec 1964 p 12

PRINTED CIRCUITS, MONEY SAVING APPROACH TO: single-sided circuitry as a design concept. Nov 1965 pp 50-51

PROCESS CONTROL: integrating electronic flow signals lessen measurement errors. Apr 1965 pp 28-31

PROTECTION SYSTEM, FOR CENTRAL OFFICE: telephone industry's first modular central office protection system. Mar 1963 pp 11-12

PUMP, ELECTROMAGNETIC: handles alkali metals at 2000F. May 1963 p 14

QUALITY CONTROL: production sampling for. Sept 1964 pp 38-39

RACK AND PANEL CONNECTORS: Part I: application and selection guide. Oct 1965 pp 28-37

Part II—product survey of manufacturers' MIL-C-8384 designs. Nov 1965 pp 24-32

Part III—product survey of manufacturers. MIL-C-21617, MIL-C-22857, MIL-C-26518 and SCL-6020 designs. Dec 1965 pp 40-51

RADAR ANTENNA THAT WAVES BACK: eliminates the need for a stabilized platform. Dec 1965 pp 8-9

RADIATION: combined environment. June 1964 pp 26-27

RADIATION: components in space. Mar 1964 p 22

RADIATION: components in space. July 1963 pp 22-24

RADIATION: components resistant to nuclear weapons effects. Feb 1965 p 18

RADIATION DAMAGE: inorganic. June 1963 pp 22-24

RADIATION: doses near earth. Oct 1963 pp 28-29

RADIATION: effect of low gamma doses on naval electronics. Sept 1963 pp 24-25

RADIATION: effective nuclear detonations on space systems. Apr 1964 p 18

RADIATION EFFECTS: items of interest. May 1963 pp 32-34

RADIATION EFFECTS IN ELECTRONICS. Nov 1964 p 22

RADIATION EFFECTS STUDIES: Apr 1963 pp 22-24

RADIATION ENVIRONMENTS: circuit design techniques for. Nov 1963 pp 22-23

RADIATION: semiconductors for space. Dec 1963 pp 18-19

RADIATION, SELECTING ELECTRONIC COMPONENTS FOR SPACE: selection procedures; tables and charts of devices by part number and manufacturer accepted for space environments. Jan 1963 pp 32-38

RADIATION, SPACE: electronic components for; selection factors and listing of components for space. Jan 1963 pp 32-38

READERS, TAPE: state-of-the-art survey containing selection and application data, comparison worksheets and buyer's guide. Feb 1964 pp 24-32

READOUT DEVICES, DIGITAL: Part I: how to evaluate operational characteristics. May 1963 pp 40-52

Part II: light transit devices, light emitting and cathode ray tubes; buyer's guide. Apr 1964 pp 24-32

READOUT DEVICES, DIGITAL: state of the art survey containing selection and application data, comparison charts of all device types and buyer's guide. Jan 1965 pp 273-298

RECORDER, SERVO INTEGRATING: how to get accurate analysis of any variable that depends upon the precise measurement and integration of recorded curves. Feb 1963 pp 66-69

RECORDER, TAPE: stores pictures in digital form. Oct 1965 pp 14-15

RECORDER, TAPE, LONG TERM MAGNETIC: real-time playback at ultra-slow speeds. Feb 1965 p 35

RECORDERS: high capacity for communication satellites. Feb 1963 pp 62-64

RECORDERS AND INDICATORS: matching to potentiometer-output transducers. How to continuously record or indicate variables such as pressure or acceleration. Apr 1963 pp 26-27

RECORDERS, CHART: state-of-the-art survey containing selection and application of data, comparison worksheets and buyer's guide. Jan 1964 pp 303-316
Revised and updated Jan 1964 pp 381-394

RECORDING HEADS: soft glass coating improves performance. June 1965 pp 6-7

RECTIFIER, SILICON CONTROLLED: applied to adjustable speed drive. Apr 1963 p 14

REED RELAY: operating values adjusted to exact circuit needs. Oct 1965 pp 16-17

REED SWITCHES AND REED RELAYS: state-of-the-art survey with comparison and selection worksheet and buyer's guide. July 1963 pp 28-41
Revised and updated July 1965 pp 153-172

REED SWITCHES AND REED RELAYS: state-of-the-art product review. Aug 1963 pp 56-60

RELAY: magnetic latching. Feb 1965 p 34

RELAY CONFERENCE: report of 13th Annual National Relay Conference combined with 2nd International Conference on electromagnetic relays. June 1965 pp 38-50

RELAY FACTS: by Staff Columnist Edward U. Thomas. Topics listed alphabetically.
Abuses—Nov 1963
Acceleration, Tests for—Feb 1964, May 1964
Advertising (pitfalls)—Oct 1963, Jan 1964, Dec 1965
AIA (Aerospace Industries Association)—See NAS 728, and Crawford
AIR 875 & 904 (Society of Automotive Engineers Aerospace Information Reports) Mar 1965, Apr 1965, May 1965, Dec 1965
Applications—Jan 1964 (Also see ARP 909)
Applications Course (Suggested)—Dec 1965
Arc-over—See Polyphase, and Case Grounding, also Sept 1965
ARP 909 (SAE Aerospace Recommended Practice)—Dec 1965
Attacking a Problem—Dec 1964
Booby Traps—Feb 1965, Solution Nov 1965, Dec 1965
Booby Traps, More—Oct 1965
Brooks, J F—Jul 1963 (Guest), Sept 1963, Oct 1963, Nov 1963, Nov 1965
Cartoon—Dec 1962
Catalog or Spec?—Aug 1965
Case Grounding—Jan 1963, May 1963 (photos), Nov 1963

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Litton's neo-magnetic, non-contact technique also permits other code patterns to be packaged into cases substantially smaller than previously possible. Please call us direct with your specific requirements or contact your nearest Litton regional engineering office. Encoder Division, 7942 Woodley Ave., Van Nuys, Calif. (213) 781-2111. New York: (212) 524-4727. Chicago: (312) 775-6697. Washington: (202) 462-8833.

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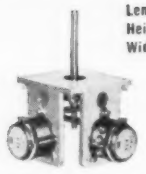
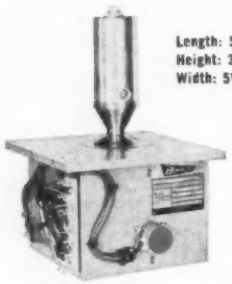


Length: 1¼
Height: 1¼
Width: 1¼

Bowmar X-2438 Subminiature Joystick is self-centering and has a 1½-inch "finger" stick for precision X-Y control operation. X-2438 and other miniature types are designed for panel installation where space and weight are critical factors. A variety of precision miniature potentiometer values may be specified. Cams and other special devices can be incorporated in many cases.

APPLICATIONS:
Panel control of electronic equipment, positioning, attitude control in manned satellites, TV camera control, aiming systems, trimming, tuning, and many remote servo functions.

XYZ Joystick Controls
FOR SERVO TRACKING AND POSITIONING
TM Bowmar Instrument Corporation



Length: 5¼
Height: 3½
Width: 5¼

Bowmar X-1082 Joystick provides precision X-Y proportional rate control by movement of a 4½-inch stick ±30° in any direction. Standard units operate precision potentiometers to provide control functions. Other types of control components can be readily incorporated. Z coordinate control is obtained by rotating the stick in either direction. The unit includes a thumb-actuated safety interlock. Direct counter readout can be provided. Detent stick can be incorporated. X-Y omni-directional ball units available.

APPLICATIONS:
Precision positioning, tracking, servo control and correction, simulator controls, slewing and tuning, guidance and many remote functions, navigational correction.

Complete Technical Data on Request

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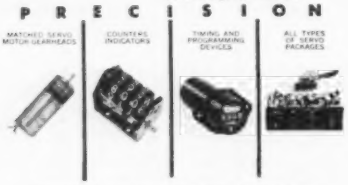
PRECISION



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Celsius instead of centigrade, adoption of, —Dec 1963, May 1964
Centrifugal acceleration—See acceleration
Charts, Sequence (operational sequence)—Jun 1964, Sept 1964
Circuit Application Ideas—Aug 1964
Circuit Breakers (Compatibility)—Mar 1963
Circuits, More On—Nov 1964
Committees (Relay) Dec 1962, Jan 1963, Apr 1963, Oct 1964
Comparison, Spec—Jan 1964 and AIR 875 (over 3200 in circulation)
Confusion, Needless—Sept 1965
Construction, Relay—Feb 1963, Jan 1964, Apr 1965, May 1965, Sept 1965, Dec 1965 (photos)
Contact Life—Aug 1963
Counting Chains—Jun 1964, Sept 1964, Nov 1964
Crawford, W M (Reliability EETC 27)—Nov 1964
Crystal Can Relay Construction—Jan 1964, Apr 1965 (photo), May 1965 (photo)
Date Code (Changes in)—Aug 1963, Jan 1964
Definitions (Suggested)—Jan 1964, May 1964
Dielectric Test Voltages—Feb 1963, Dec 1963, Jan 1964, May 1964, Oct 1964, Apr 1965
Dry Circuits—Jan 1964, Apr 1965, see also Minimum Current
Edison, T A—Oct 1964
Fail-Safe—May 1963, Aug 1964, Oct 1964, Dec 1965
Fessenden, E E—Nov 1965
Flux, Coil (Temp Effect)—Dec 1964
Grounded Case—May 1963 (photo), Apr 1965 —See Case grounding and NEC
Ground, Switching of (Hazards)—Oct 1965, Nov 1965
Halbeck, R—See Nunn, C
Handbooks—Military, Dec 1965; NARM—Mar 1964, Dec 1965; EMD—Jan 1964, Jul 1964, Jan 1965, Jul 1965
Heat Transfer—(Mounting)—Jan 1963
Hermetic Seal—Oct 1963, Nov 1965 (Army letter under "Protection Failure")
Inductive Loads—May 1963
Interlock Circuits—Jan 1964, Nov 1964, Oct 1965
Intermediate Switching Area—See Minimum Current.
Inrush Currents (minimizing effects)—Aug 1963, Sept 1963, Oct 1965
Lamp Loads (Circuits to minimize inrush) —Sept 1963, Dec 1963, Oct 1965
Lippert, J (SAE Staff) Mar 1965, Nov 1965
Logic (Questionable and otherwise)—Nov 1963, Feb 1964, Mar 1964, Dec 1964, Feb 1965, May 1965, Dec 1965
Low Power Relays (Sensitive)—Jan 1964
Lynch, H P—Nov 1965
Magnetic Latch Relays—May 1963, Dec 1964, Jan 1965, Aug 1965
Magnetic Interaction and Interface—Sept 1963, Aug 1965, Oct 1965
Malfunctioning Circuits (Doorbelling)—Dec 1964, Jan 1965
Martin, P N—Jan 1964, Mar 1964
McGorray, J J and Scott, J K—Dec 1964, Sept 1965
Military Equipment (Requirements)—Apr 1963, Jun 1963, Nov 1963, Jan 1964, Apr 1965, Dec 1965
MIL-R-5757 Extolled—Apr 1965
Military Specifications—Oct 1963, Nov 1963, Jan 1964, Apr 1965, Dec 1965 (compatibility)
Minimum Current (Intermediate Switching Area)—Mar 1963, Jul 1963, Sept 1963, Oct 1963, Jan 1964, May 1964, Nov 1964, Apr 1965, May 1965, Sept 1965, Oct 1965, Nov 1965, Dec 1965 (Also various letters to editor)
Motors Loads—May 1963 (photos), Oct 1963, Jan 1964, Mar 1964, May 1964, May 1965 (photo)
NAS 728—May 1963, May 1964 (feature), Oct 1964, Nov 1965
National Electrical Code (NEC)—Mar 1963, Feb 1964, Mar 1964, Nov 1964, Oct 1965, Nov 1965
New Design, Not For—Sept 1963, Jan 1964
Objectives (Column)—Oct 1963, Nov 1964, Dec 1965
Off-Gas Contamination—Feb 1963, Nov 1963 (Also see Minimum Current)
Overload and Rupture—Mar 1963, Oct 1963, May 1964, Oct 1964
Parallel or not to Parallel Contacts—May 1963, Feb 1964, May 1964, Mar 1965
Parallel Lamp and Coil—Dec 1963
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Pit falls—Oct 1963
Plug-in Relays (Hazards)—Jan 1963, Nov 1963, Aug 1965
Polarized Relays—May 1963, Sept 1963, Jan 1964, Jan 1965, Aug 1965, and AIR 904
Power Supply Transfer—Dec 1962, May 1963, Jan 1964, Mar 1964, Oct 1965
Polyphase Loads—Dec 1962, May 1963, (See also Single and 3 phase)
QPL (Qualified Products List, Advantages of) —Jan 1963, Nov 1963, Jan 1964, Apr 1965, Nov 1965, Dec 1965
Ratings, Contacts—May 1963
Realistic Ratings—May 1965
Reed Relays—Jul 1964, Jul 1965
Reliability—Nov 1964, Aug 1965, Sep 1965
Responsibility, Vendor's—Jan 1963, Apr 1963, Jun 1963, Nov 1963, Jan 1964, Oct 1964
Roughan, J V, NARM Executive Director for papers—Box 7765, Phoenix, Ariz 85011
SAE (Society of Automotive Engineers)—A-2R Committee—Dec 1962, Feb 1963, Oct 1964
Safety in Relays—Mar 1967
Schneider, C S—Apr 1965, Oct 1965
Scott, C F—Nov 1965
Scott, J K—See McGorray
Selection Methods—Dec 1964
Sensitive Relays—Jan 1964
Shock—Jan 1964
Siegel, A—Nov 1965, Oct 1965
Single phase and three phase ratings—Dec 1962, Feb 1963 (photo), May 1963 (photo), Oct 1963, Nov 1963, Dec 1963, Jan 1964, Feb 1964, Nov 1965 (photo)
Solid State—Jan 1963, Oct 1964
Special Relays,—Nov 1963
Spec Changes (Military)—Dec 1962, Dec 1965
Spec Comparison—Jan 1964 (chart) Mar 1965, May 1965 also AIR 875
Specifications, Misuse of—Jul 1963 (Brooks J F, guest)
Specification Unanimity—Dec 1965
Steinmetz, C P—Nov 1965
Stereotype Thinking—Nov 1965
Symbols, graphical standards—Dec 1962, May 1963, Jan 1964, Jan 1965, Feb 1965, Aug 1965, Nov 1965
Synchros—Nov 1963, Oct 1965
Telephone Practice—Sept 1965, Nov 1965
Temperature Effects (on relay operation)—Dec 1963, Aug 1965
Thermal Relay—May 1963, Oct 1965
Three Big Questions—Oct 1964
Value Engineering—Oct 1964
Vibration—Jan 1964, May 1964
Virginia, Yes there is . . .—Dec 1962
Wiring Hazards—Nov 1963, Jan 1964, Feb 1964, Jan 1965, Nov 1965

RELAY TESTING, LOW LEVEL: detects "sticks" and "misses". Nov 1965 pp 46-47

RELAY, 300 V: design and application. Apr 1964 pp 36-39

RELAYS: 11th annual conference; highlights of interest to design engineers on relay applications. June 1963 pp 36-59

RELAYS: 12th annual conference report. June 1964 pp 16-21
RELAYS: magnetic adjustment of mercury-wetted. May 1964 pp 38-43
RELAYS, ELECTROMECHANICAL: low power (sensitive); state-of-the-art survey containing selection and application data, Mil Specs and buyer's guide. Jan 1964 pp 207-250
RELAYS, POLARIZED: state of the art survey on selection, application, definitions, representations and buyer's guide. Jan 1965 pp 143-158
RELAYS, REED AND REED SWITCHES: state-of-the-art survey containing selection and application data, comparison worksheet and buyer's guide. July 1964 pp 195-213 Revised and updated July 1965 pp 153-172
RELIABILITY, ASSURANCE PROGRAM: provides failure rate sampling plans. Sept 1965 pp 64-65
RESISTORS, PRECISION: selection and application guide. Sept 1965 pp 26-47
RESOLVER AND SYNCHRO COMPONENTS: modern methods of evaluating; how to use the inductive ratio divider in a variety of circuits for a variety of tests. July 1963 pp 50-53
RESOLVER AND SYNCHRO DESIGN. Nov 1964 pp 50-51
RESOLVERS AND SYNCHROS: magnetic transducers; state of the art survey containing selection and application data, comparison and selection worksheets and buyer's guide. Jan 1965 pp 115-142
RESOLVER/SYNCHRO TESTING: automatic checking of angular accuracy. Oct 1963 p 13
RESOLVERS, ELECTRICAL: state-of-the-art survey containing selection and application data, comparison worksheet and buyer's guide. Jan 1964 pp 85-102
RFI GASKETS: reliability concepts. Dec 1963 30-32
ROTARY SWITCHES: how to measure contact noise. Oct 1965 pp 46-47
ROTOR, DESIGNED FOR BALANCING: balancing high speed rotating masses. Feb 1963 pp 56-60
SCR APPLICATIONS: selection, application data and buyer's guide. Jan 1964 pp 317-332
SCR APPLICATIONS: circuits of interest to electromechanical designers and buyer's guide. Jan 1965 pp 395-410
SCR, INDUSTRIAL APPLICATIONS FOR: temperature regulation, variable motor speeds and regulating systems. July 1963 pp 56-58
SCANNER, OPTICAL: for computer, data processing, memory readout and remote surveillance. Mar 1965 pp 36-37
SEALING ALLOY TUBING, GLASS AND CERAMIC: a guide to selecting proper mating material. Nov 1965 pp 48-49
SEALS, MAGNETIC DOOR: RF sealing. Oct 1963 p 20
SEMICONDUCTOR SURFACE EFFECTS. Nov 1964 pp 14-17
SEMICONDUCTORS: radiation resistant. Dec 1963 pp 18-19
SENSOR, SLIDE POSITION: precision control of centerless grinding. Apr 1965 pp 48-51
SENSOR-TRANSMITTER: digital measurement of pressure and temperature. Mar 1965 pp 49-50
SERVO ACTUATOR, DIGITAL: control system eliminates feedback loops, digital-to-analog converters. June 1963 pp 60-61
SERVO CONTROL: graphical determination of single time constants; rapid method for solving time constant without the usual process of scaling the output function. Aug 1963 p 32
SERVO FILTER: digital to analog to digital. Apr 1965 pp 32-35

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SERVO VALVE, HYDRAULIC: permits load dwell. Aug 1965 pp 13-14

SERVOMECHANISM DESIGN: practical factors in. May 1964 pp 48-51

SERVOMECHANISMS SYSTEMS, INSTRUMENT: state-of-the-art survey containing selection and application data, check lists, and buyer's guide. July 1964 pp 35-66
Revised and updated July 1965 pp 171-220

SERVOMOTOR, BRUSHLESS: self starting dc unit for high efficiency to weight ratio applications. July 1963 p 12

SERVOMOTOR CONTROL: for tape handler; photo cells operate circuitry controlling torque of reel motors to maintain predetermined loop sizes of tape. Apr 1963 pp 58-63

SERVOMOTORS, AC: state-of-the-art survey containing selection and application data and buyer's guide. Jan 1964 pp 103-126

SERVOMOTORS, AC AND DC: state of the art survey containing selection and application data and buyer's guide. Jan 1965 pp 223-252

SHOCK ABSORBER: protects motors and gear-trains. May 1965 pp 46-47

SILICON RECTIFIER, SUBMERSIBLE: replaces rotating machinery. June 1963 p 12

SHUTTER, PHOTOGRAPHIC: opens to an area of 1" x 3" in less than 45 μsec. Jan 1963 p 25

SLIP RINGS: state-of-the-art survey containing selection and application data. July 1964 pp 143-166
Revised and updated July 1965 pp 221-244

SLIP RINGS MINIATURE ASSEMBLIES: cartridge type improves design. Apr 1965 pp 44-46

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SOLENOID, ROTARY: actuates camera shutter. Mar 1965 pp 55-56

SOLENOIDS: ac application. Apr 1964 pp 44-51

SOLID-SOLID INTERFACES: conference report. Oct 1964 pp 16-17

SOUND SYSTEM, ECHO-FREE: control delay in the reproduction of sound. Oct 1963 p 20

SPRINGS: smallest known; designed to measure flux, momentum and energy of micro-meteorites. June 1963 pp 16-17

SPRINGS, CONDUCTIVE BRUSH. May 1964 pp 44-47

SPRINGS, FLAT SPIRAL: design eliminates holder. Sept 1963 p 10

SPUTTERING SYSTEM: for tantalum thin-film deposition. Apr 1963 pp 28-31

STABILITY, FOR LIGHT HELICOPTER: inertial sensors and electronic compensation replace aerodynamic coils or weights in a rotor system to improve helicopter stability. July 1963 pp 44-49

STABILIZER, SPACECRAFT: liquid-metal flywheel responds 60 times faster. Jan 1963 p 25

STEPPING SWITCH, CIRCUIT DESIGN: key design and selection factors sometimes overlooked in the application of stepping switches. Feb 1963 pp 50-55

STRAIN GAGES: use in automatic locomotives. Feb 1965 pp 26-27

SWITCH, ADJUSTABLE CAM: ideas in cam switch applications. Mar 1963 pp 58-60

SWITCH, FIBER OPTICS: sensitive to changes in light. June 1965 p 6

SWITCH GEAR, AIRCRAFT: the best way to interrupt inductive circuits. Sept 1964 pp 32-33

SWITCH, INDUCTANCE: a cryogenic logic element. Aug 1964 pp 36-39

SWITCH, PHOTOELECTRIC: operates with low level inputs. May 1965 p 48

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New Products: designs that fill a "crying need" plus the author's estimation of potential needs. Dec 1964 pp 22-24

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TEST SYSTEM, MISSILE GUIDANCE: automatically runs through a complex test procedure, pin points exactly where trouble exists and tells the operator how to fix it. Jan 1963 p 22

TESTING, ENVIRONMENTAL: state-of-the-art survey containing Mil Specs and buyer's guide for variety of test equipment. July 1964 pp 67-88

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THERMOCOUPLES: metal sheath improves performance. June 1965 p 10

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THERMOELECTRIC GENERATOR: radioisotope fueled. Mar 1965 pp 11-12

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TORQUE, MEASUREMENT SYSTEM: for turboprop engines. June 1964 pp 14-15

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TRANSISTOR, MICROPOWER: fast switching device. Aug 1963 p 12

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ULTRASONICS: waves rotated by magnetic field; crystal development makes new family of ultrasonic devices possible. Jan 1963 pp 26-28

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